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Re: CIRM Berkeley Center of Excellence Application FA1-00610-1

Dear Mr. Keller:

On behalf of the University of California, Berkeley, I would like to thank you and your CIRM staff for a very balanced and accurate staff analysis of our application to establish a CIRM Center of Excellence in the Li Ka Shing building, currently under construction on the Berkeley campus. We are very pleased that our proposed project was deemed to offer strong leverage to CIRM and the State of California, meet a high standard for sustainability and innovative design, address the needs for urgency in establishing centers for stem cell research, and offer a number of shared resources both inside the CIRM CoE and outside the CoE but in the Li Ka Shing building.

In response to two questions raised in this analysis, it is our pleasure to offer the following additional information.

*Question 1: "**Cost**—How will the FWG weigh the relatively high cost for this space in comparison to similar proposals? Is the apportioning of overall building costs for the CIRM project reasonable?"*

> With respect to the analysis of costs, several factors contribute to the cost of $1,228 per gross square foot. In addition to the $1.5 million in demolition costs and $1.5 million in additional contingency (budgeted at 10% of construction costs in lieu of 7.5%), we would like to cite cost differentials based on geographic location and other site-specific cost

impacts. Normalizing for locational cost differentials and earthquake fault conditions unique to the Berkeley campus, the cost spread would be tighter. If costs were further normalized to reflect the other factors outlined below, Berkeley's costs would compare favorably with those of other proposed CIRM facilities.

According to the March 2008 ENR Building Cost Index, San Francisco's costs exceed those of Los Angeles by 7.4%, based largely on labor cost differentials. Cumming Corporation, a national cost estimating firm, cites an even steeper differential between San Francisco and San Diego of 13.5%. More locally, Cumming cites at least a 5% premium over costs in Novato or Stanford.

Site-specific costs include additional structural and foundation costs due to the "near-fault condition" arising from immediate proximity to the Hayward Fault. The design of seismic restraints for non-structural components—such as ductwork, piping, mechanical equipment, and research equipment—has also been enhanced to minimize downtime after an earthquake. The sloped site and high water table result in increased below-grade waterproofing costs. There is also a cost premium associated with building adjacent to, and directly connecting to, an active vivarium, and with adjacency to other laboratory buildings in the Biomedical Quadrant, where research synergistic with the CIRM program is housed. Noise, vibration, dust, and security mitigations are required.

At the same time, our project features unique programmatic elements that provide benefits to CIRM and the State, but do increase costs. For example, the project's core and shell are designed to house elements that are unusually high in cost, including the vivarium expansion, imaging facilities with shielded space for large MRIs, and a suite of Biosafety Level 3 laboratories. In addition, the exceptionally high level of LEED certification anticipated in this project requires a higher capital investment. Finally, because this is a campus gateway project, located off the West Crescent entry to campus, it requires city traffic mitigations and building skin materials of appropriate quality.

Regarding the contingency estimate, the campus has proposed a contingency of 10% to recognize that, although demolition, excavation, shoring, and structural steel contracts have been awarded and work is underway, we are still awaiting bids, due shortly, from major trades including mechanical, electrical, and building enclosure systems, where a higher level of bidding contingency may be prudent.

As a final note, we observe that Berkeley's cost per square foot is among the lowest of the proposals if one considers the share of the project that is proposed to be CIRM-funded.

*Question 2: "**Shared Facilities/Functionality**—How will the FWG evaluate shared resources in relation to functionality? The relatively small amount of core laboratories in the CIRM-funded project does not reflect the extensive number of core facilities available in the building that are not part of the CIRM-funded space, though these cores will benefit the stem cell research*

program."

The CIRM analysis recognized that, while a number of highly valuable shared resources will be available to stem cell researchers in the Berkeley CIRM CoE, of these only the cell culture and flow cytometry cores will actually be localized within the CoE space. In response to this observation, we would like to affirm that all shared facilities, whether technically within or outside of the CIRM CoE, will be highly accessible to, and heavily utilized by, the CoE investigators.

A central criterion in designing the CoE was for stem cell researchers to have optimal access to outstanding, state-of-the-art facilities to support most or all of their research needs. These needs include high-quality cell culture, cell sorting, and cell analysis equipment, all of which will be localized in the CIRM CoE.

In addition, the basement of the Li Ka Shing building will house a large expansion of an existing animal vivarium, an animal imaging core, and a cell and molecular imaging core. Although these spaces technically lie outside of the CIRM CoE, they were localized for optimal access for stem cell researchers both inside and outside of the proposed CoE. In fact, a recent, generous $4.5 million grant from the Gordon and Betty Moore Foundation to the Berkeley Stem Cell Center will enable us to equip the animal imaging and cell and molecular imaging cores to specifically meet the needs of stem cell researchers. Thus, in effect, these core spaces outside the CoE will be designed for stem cell research *in the same building but outside of CoE space*, thus allowing our CIRM investigators and their teams to significantly enlarge their research labs without direct cost to CIRM. Likewise, there are a number of other state-of-the-art campus cores in other buildings, ranging from DNA sequencing to proteomics, that stem cell investigators will continue to utilize.

All in all, investigators of the Berkeley Stem Cell Center, both inside and outside of the CIRM CoE, will have broad, ample, and convenient access to many outstanding resources to meet their research needs.

In concluding, we would simply like to say again that we are deeply grateful to the California Institute for Regenerative Medicine for considering our proposal to expand regenerative medicine research capacity and capabilities on the Berkeley campus.

Sincerely,

Robert Bluhm
Assistant Director, Capital Projects